

## REMARKS/ARGUMENTS

Applicants thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office Action, and amended as necessary to more clearly and particularly describe the subject matter that Applicants regard as the invention. Applicants respectfully submit that the present application is in a condition for allowance in view of the following remarks.

### *Claim Rejections – 35 U.S.C. § 103(a)*

Claims 1 and 3-6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,530,923 to Heinonen *et al.* (hereinafter “Heinonen”) in view of U.S. Patent No. 6,002,923 to Sahlman (hereinafter “Sahlman”). However, Applicants respectfully submit that the combination of Heinonen in view of Sahlman fails to teach every feature of the invention recited in amended claim 1.

Specifically, the combination of Heinonen and Sahlman fails to teach, suggest or otherwise render predictable the amplitude modulated signal amplifier recited in claim 1. As claimed in amended claim 1, the amplitude modulated signal amplifier that (i) supplies a substantially constant power supply voltage to the high-frequency amplifier in the second mode and (ii) amplifies an amplitude-modulated signal and supplies this amplified signal as the power supply voltage to the high-frequency amplifier while operating in the first mode.

In contrast, Heinonen discloses a high-power linear amplifier 12 that operates in a single, linear mode. But the high-power amplifier 10 of Heinonen is described as operating in one mode “near or at its saturation non-linear region”, col. 4, lines 19-22, and being able to “effectively operate in a linear manner...” Col. 4, lines 31-37. However, Heinonen fails to teach, suggest or otherwise render predictable an amplifier that can: (i) supply a substantially constant power supply voltage to the high-frequency amplifier in the second mode and (ii) amplify and supply an amplified amplitude-modulated signal as the power supply voltage to the high-frequency amplifier operating in the first mode.

Likewise, Sahlman, cited as teaching the claimed multiplier, fails to teach an amplifier operable in linear and non-linear modes, and thus also fails to teach the claimed amplitude modulated signal amplifier for supplying the suitable supply voltage in the different modes.

For at least the reasons stated above, the combination of Heinonen and Sahlman fails to teach, suggest or otherwise render predictable every feature of the claimed invention as required to maintain a rejection of that claim for purposes of 35 U.S.C. §103(a).

The Office action explains that claims 1 and 3-6 are unpatentable over the combination of Heinonen in view of Sahlman, but then specifically addresses claims 1, 3-4 and 6, omitting a discussion of claim 5. However, claim 5 was rejected and separately addressed as being unpatentable over the combination of Heinonen in view of Sahlman and the Admitted Prior Art (hereinafter “APA”). Thus, Applicants address the rejection of claim 5 based on the combination of Heinonen in view of Sahlman and the APA separately below.

Regarding claim 5, Applicants respectfully submit that combination of Heinonen in view of Sahlman and the APA fails to teach, suggest or otherwise render obvious all features of the claimed invention. Specifically, for reasons analogous to those above with regard to claim 1, the combination of Heinonen in view of Sahlman and the APA fails to teach, suggest or otherwise render predictable supplying from an amplifier an amplified amplitude-modulated signal to be the power supply voltage to the high-frequency amplifier operating in the first mode and a substantially constant voltage signal as the power supply voltage to the high-frequency amplifier operating in the second mode. The APA appears to disclose an amplitude/phase separating means, but fails to teach an amplifier that transmits the claimed power supply voltages in the different operating modes of the high-frequency power amplifier.

For at least the reasons above, Applicants respectfully submit that the combination of Heinonen in view of Sahlman and the APA fails to teach, suggest or otherwise render predictable every feature of the invention recited in amended claim 5 as required to maintain a rejection of that claim under 35 U.S.C. §103(a).

The absence of the claimed multiplier and variable gain amplifier are correctly acknowledged in the Office action. However, the multiplier of Otaka cited is actually for orthogonal separation of the signal, and not amplitude modulation of the transmitting signal as claimed. For at least this reason, the combination of Heinonen and Otaka fails to teach, suggest or otherwise render predictable, every limitation found in amended claim 2 as required to maintain a rejection of that claim under 35 U.S.C. §103(a).

Claim 8 also stands rejected under 35 U.S.C. §103(a) as being unpatentable over Heinonen in view of the APA. However, for reasons analogous to those discussed above regarding claim 1, Applicants respectfully submit that the combination of Heinonen and the APA fails to teach every feature of the invention recited in amended claim 1. Specifically, the combination of Heinonen and the APA fails to teach, suggest or otherwise render obvious an amplifier for amplifying the amplitude-modulated signal and supplying this amplified signal and a substantially constant voltage as supply power to the high-frequency amplifier depending on its mode of operation. The APA appears to disclose a amplitude/phase separator that supplies an amplifier, but this amplifier does not supply power to an amplifier in two modes of operation. In fact, the high-frequency amplifier in FIG. 5 of the present application does not operate in two different modes as claimed.

For at least the reasons above, Applicants respectfully submit that the combination of Heinonen in view of the APA fails to teach, suggest or otherwise render predictable every feature recited in claim 8 as required to maintain a rejection of that claim under 35 U.S.C. §103(a).

The remaining claims in the present application are allowable for the limitations therein and for the limitations of the claims from which they depend.

In light of the foregoing, it is respectfully submitted that the present application is in condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

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PATENT AF  
RESPONSE UNDER 37 C.F.R. §1.116  
EXPEDITED PROCEDURE  
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If there are any fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. NGB-39582.

Respectfully submitted,  
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